

*Preliminary Mapping
of the Mud Creek Landslide
with 4D Photogrammetry*

Jonathan Warrick, Andy Ritchie

June 14, 2017



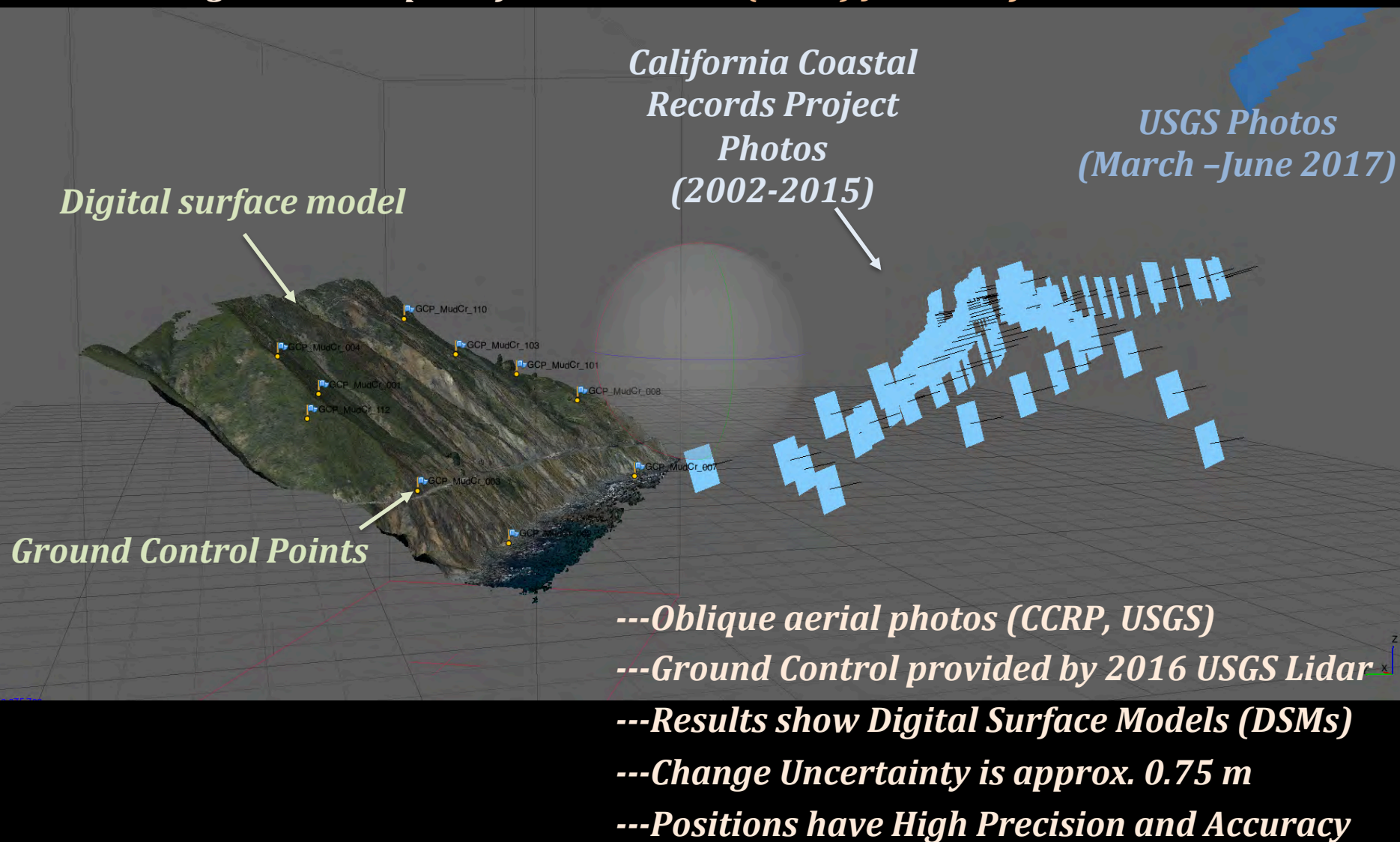
*Mud Creek,
Big Sur,
California*



PROVISIONAL DATA SUBJECT TO REVISION

Measuring Topographic Change with 4D Photogrammetry

Utilizing the techniques of Warrick et al. (2017) Journal of Coastal Research



PROVISIONAL DATA SUBJECT TO REVISION

Mud Creek – 3D Point Cloud – Oblique Perspective



Photo Source:
U.S. Geological Survey

May 27, 2017

PROVISIONAL DATA SUBJECT TO REVISION

Mud Creek – 3D Point Cloud – Oblique Perspective

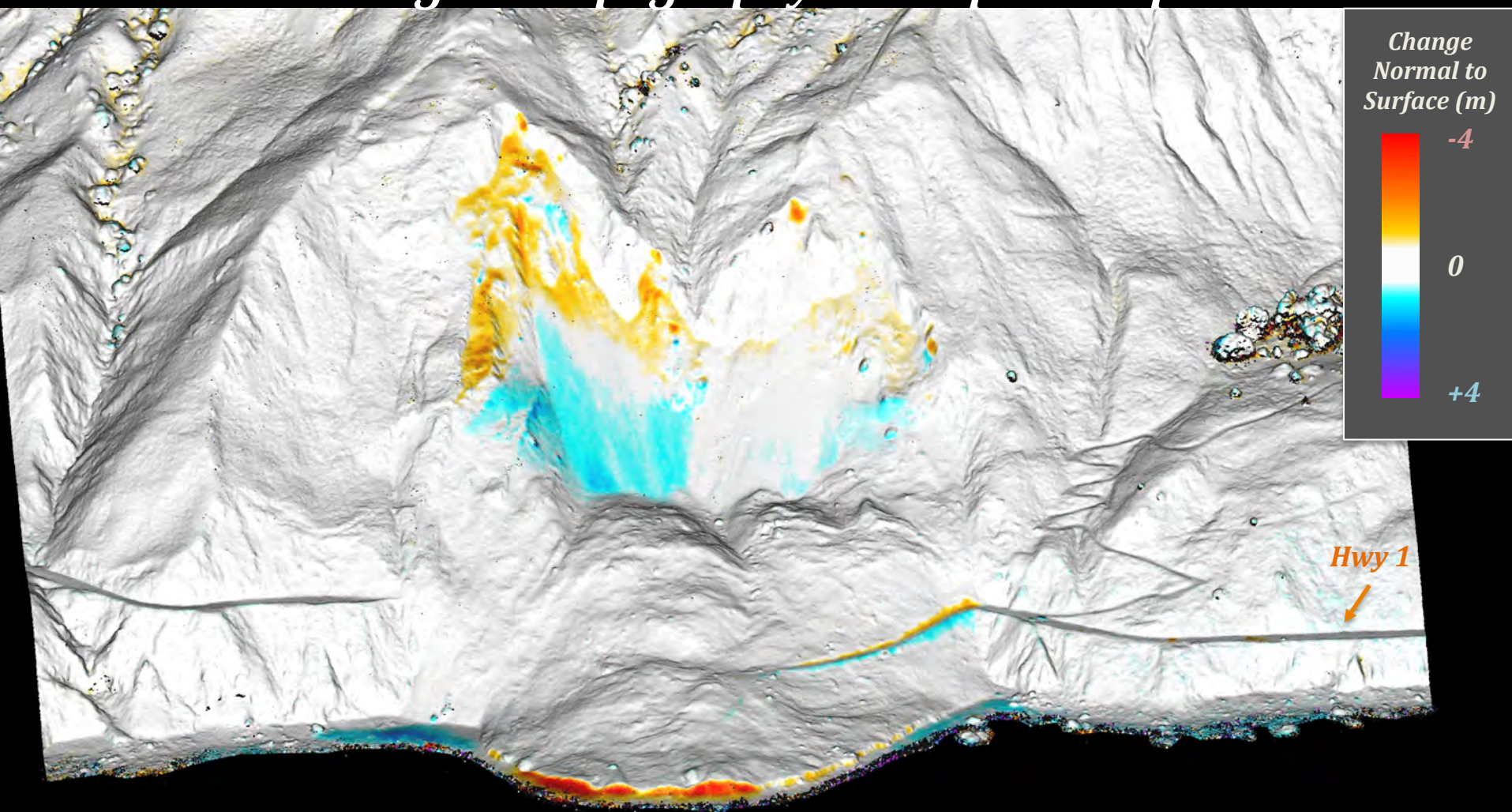


Photo Source:
U.S. Geological Survey

June 13, 2017

PROVISIONAL DATA SUBJECT TO REVISION

Mud Creek – Change in Topography – Oblique Perspective



Topographic Change: May 27 to June 13, 2017

PROVISIONAL DATA SUBJECT TO REVISION

Mud Creek – 3D Point Cloud – Oblique Perspective



Photo Source:
U.S. Geological Survey

May 27, 2017

PROVISIONAL DATA SUBJECT TO REVISION

Mud Creek – 3D Point Cloud – Oblique Perspective

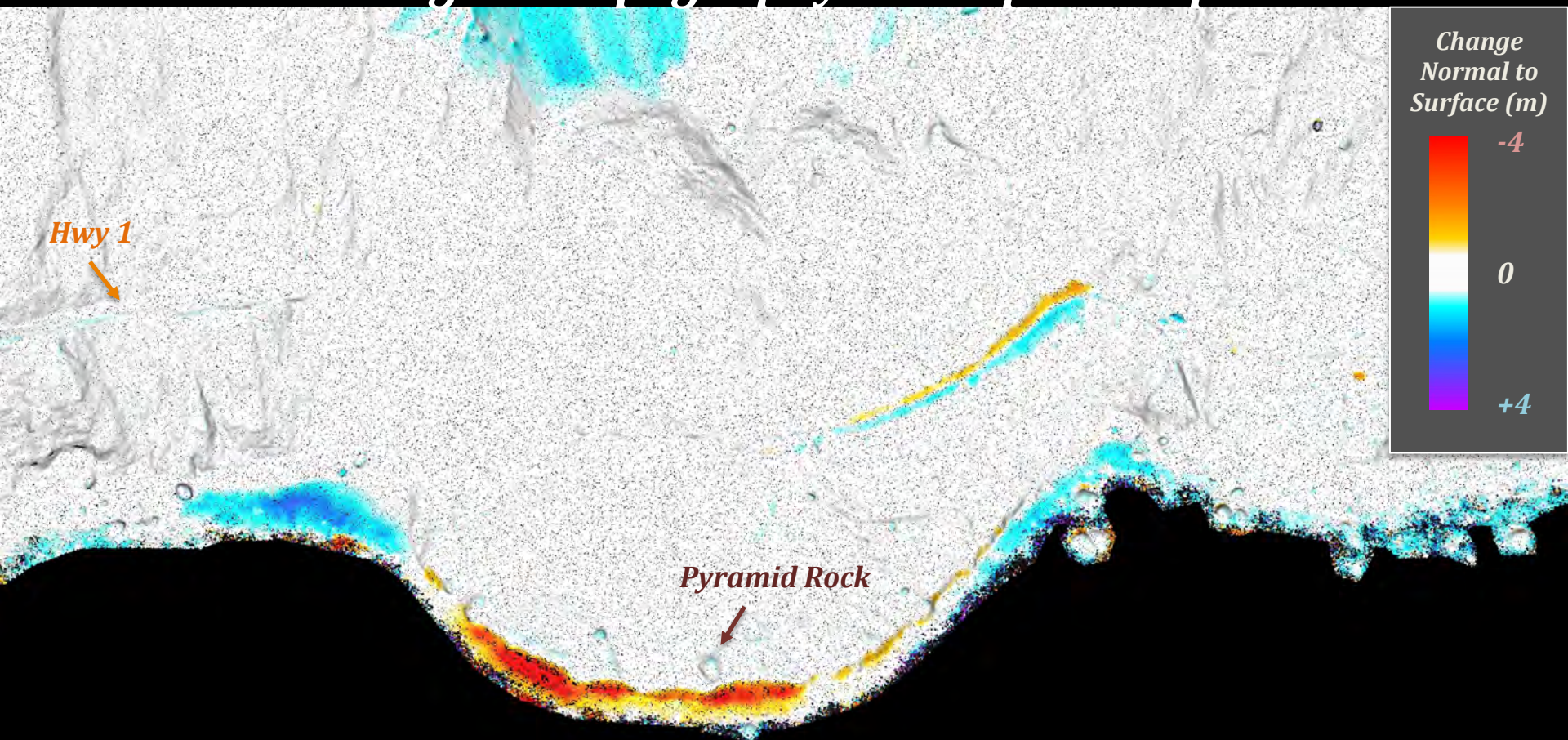


Photo Source:
U.S. Geological Survey

June 13, 2017

PROVISIONAL DATA SUBJECT TO REVISION

Mud Creek – Change in Topography – Oblique Perspective



Topographic Change: May 27 to June 13, 2017

PROVISIONAL DATA SUBJECT TO REVISION

Mud Creek – 3D Point Cloud – Oblique Perspective

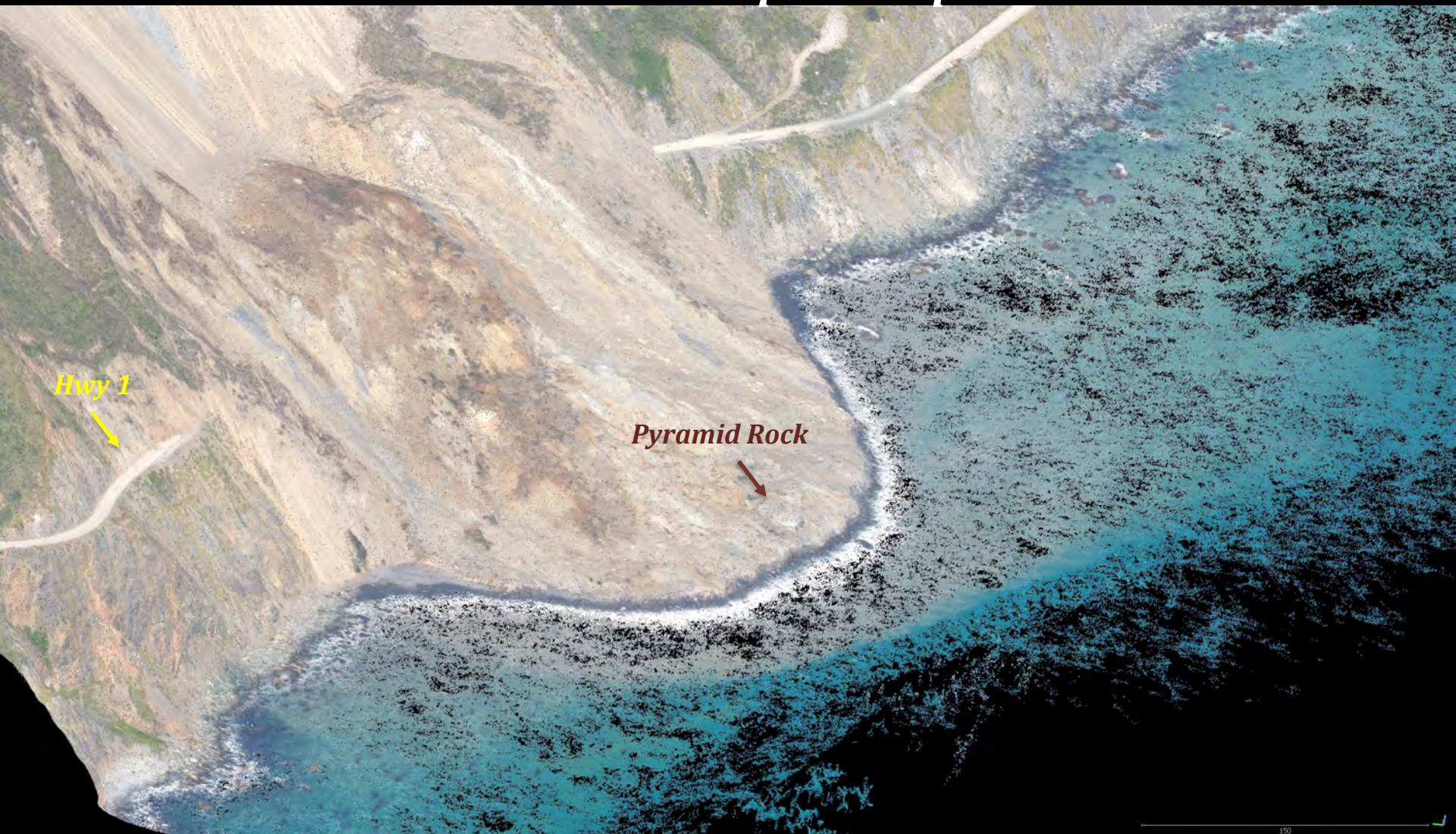


Photo Source:
U.S. Geological Survey

May 27, 2017

PROVISIONAL DATA SUBJECT TO REVISION

Mud Creek – 3D Point Cloud – Oblique Perspective

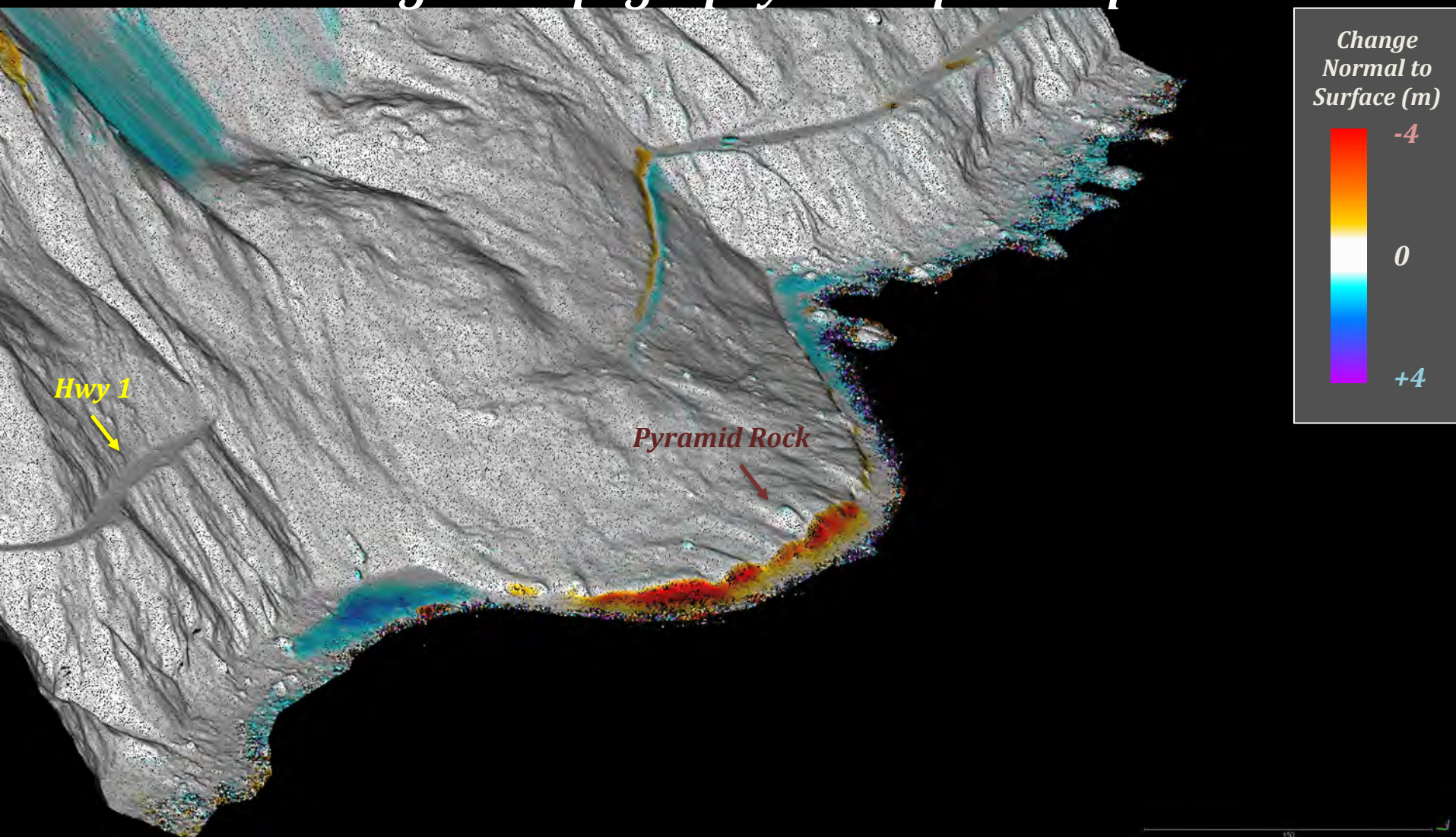


Photo Source:
U.S. Geological Survey

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PROVISIONAL DATA SUBJECT TO REVISION

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Mud Creek – 3D Point Cloud – Oblique Perspective

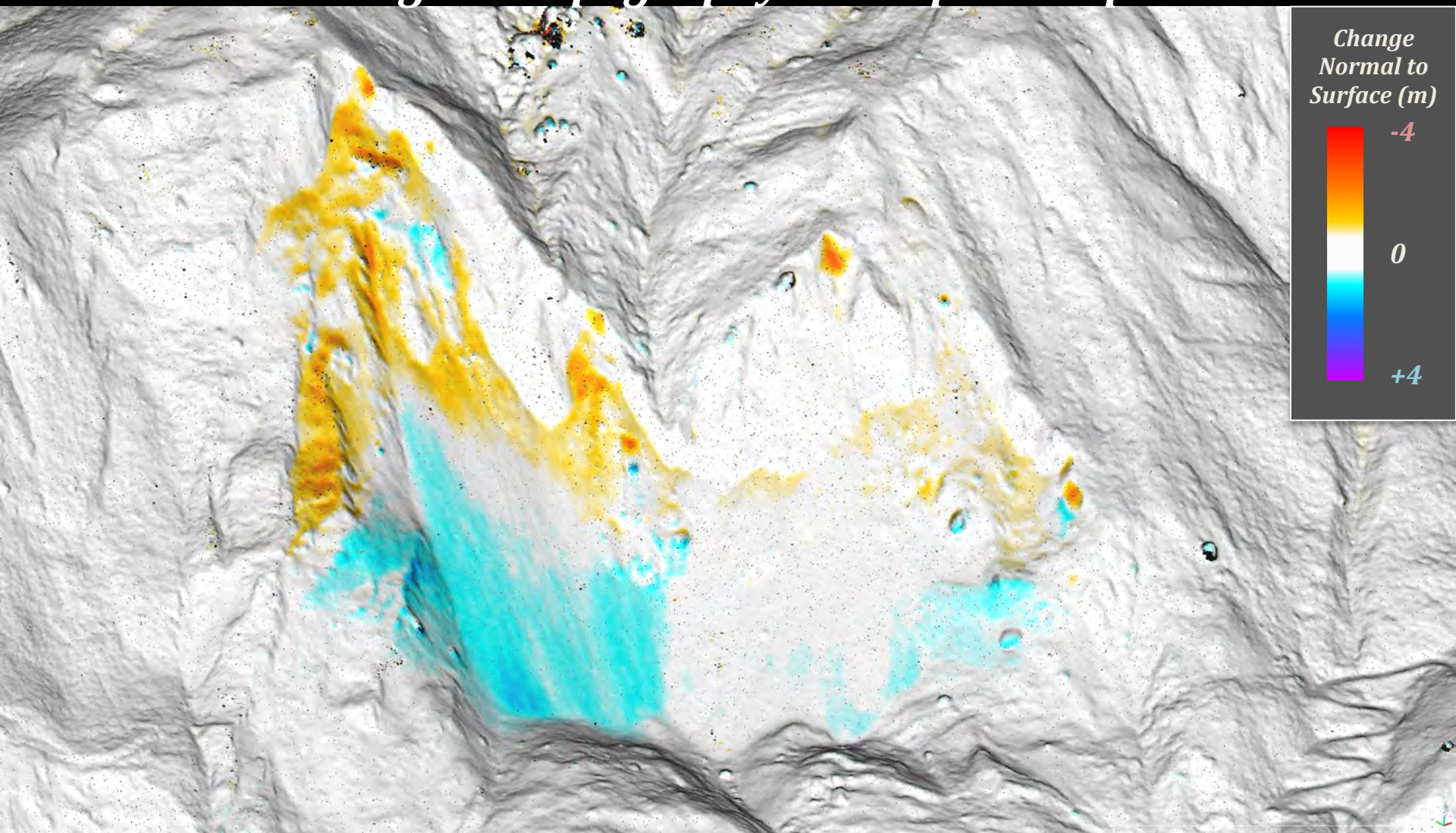


Photo Source:
U.S. Geological Survey

June 13, 2017

PROVISIONAL DATA SUBJECT TO REVISION

Mud Creek – Change in Topography – Oblique Perspective



Topographic Change: May 27 to June 13, 2017

PROVISIONAL DATA SUBJECT TO REVISION

Mud Creek – 3D Point Cloud – Pyramid Rock Profile

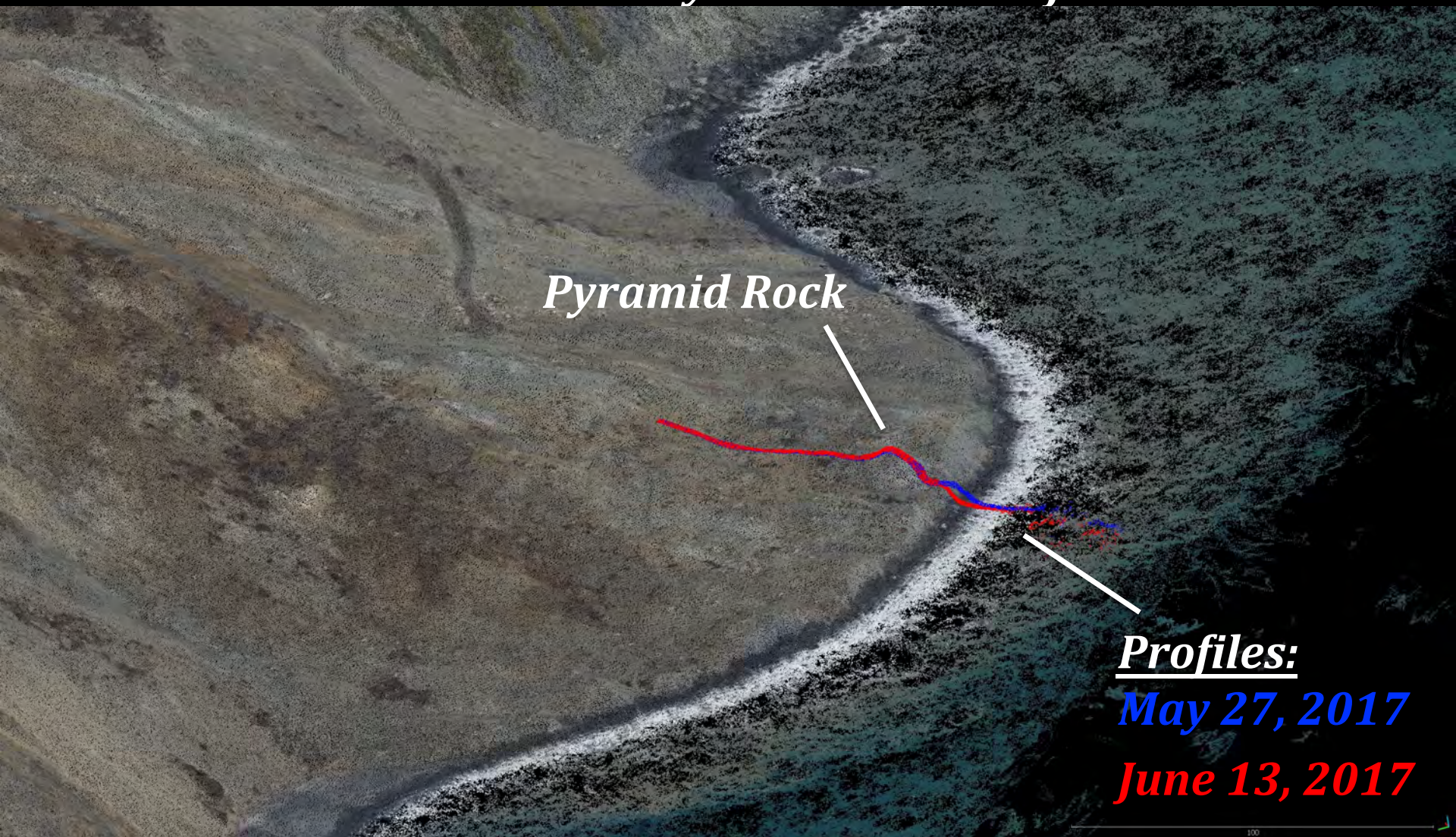


Photo Source:
U.S. Geological Survey

PROVISIONAL DATA SUBJECT TO REVISION

Mud Creek – 3D Point Cloud – Pyramid Rock Profile

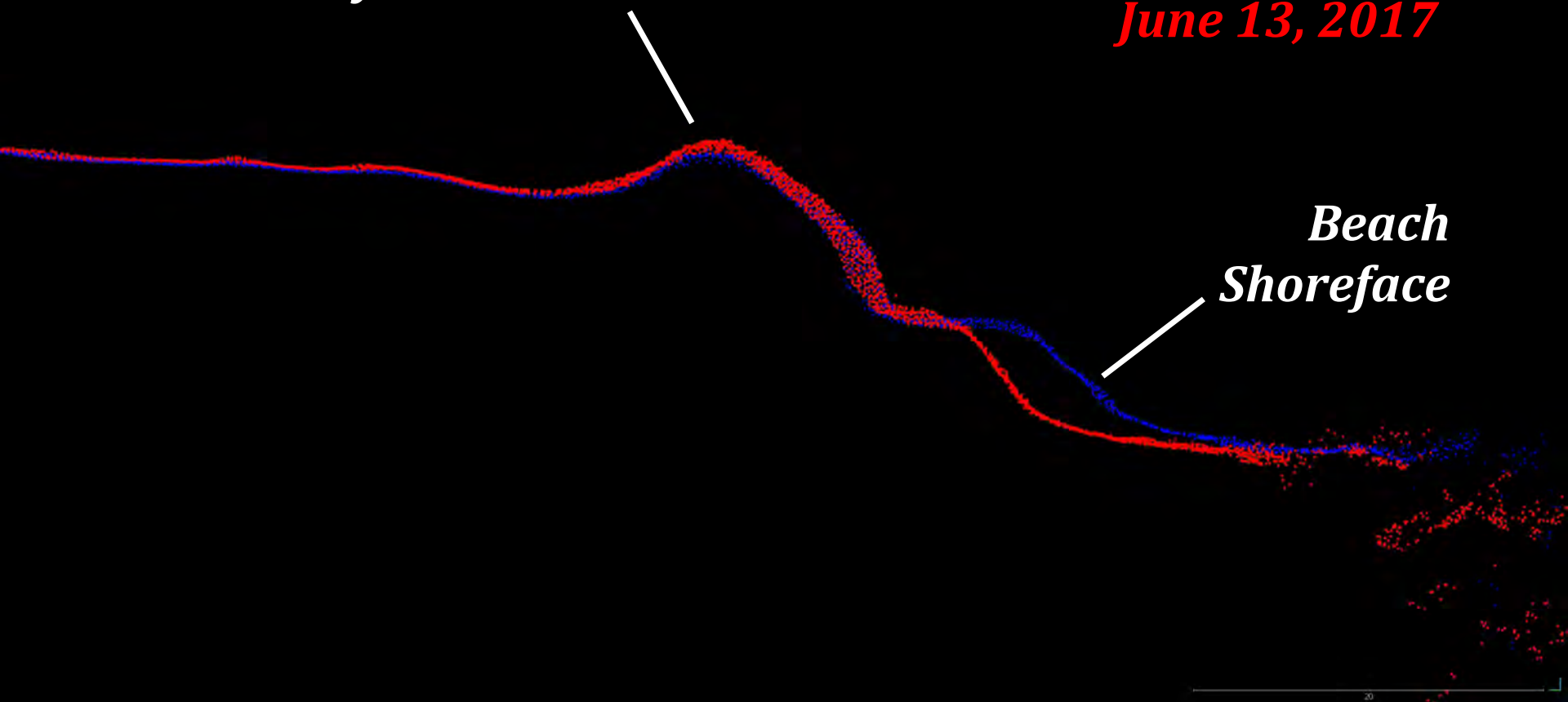
Profiles:

May 27, 2017

June 13, 2017

Pyramid Rock

*Beach
Shoreface*



*Photo Source:
U.S. Geological Survey*

PROVISIONAL DATA SUBJECT TO REVISION

Mud Creek – 3D Point Cloud – Pyramid Rock Profile

Profiles:

May 27, 2017

June 13, 2017

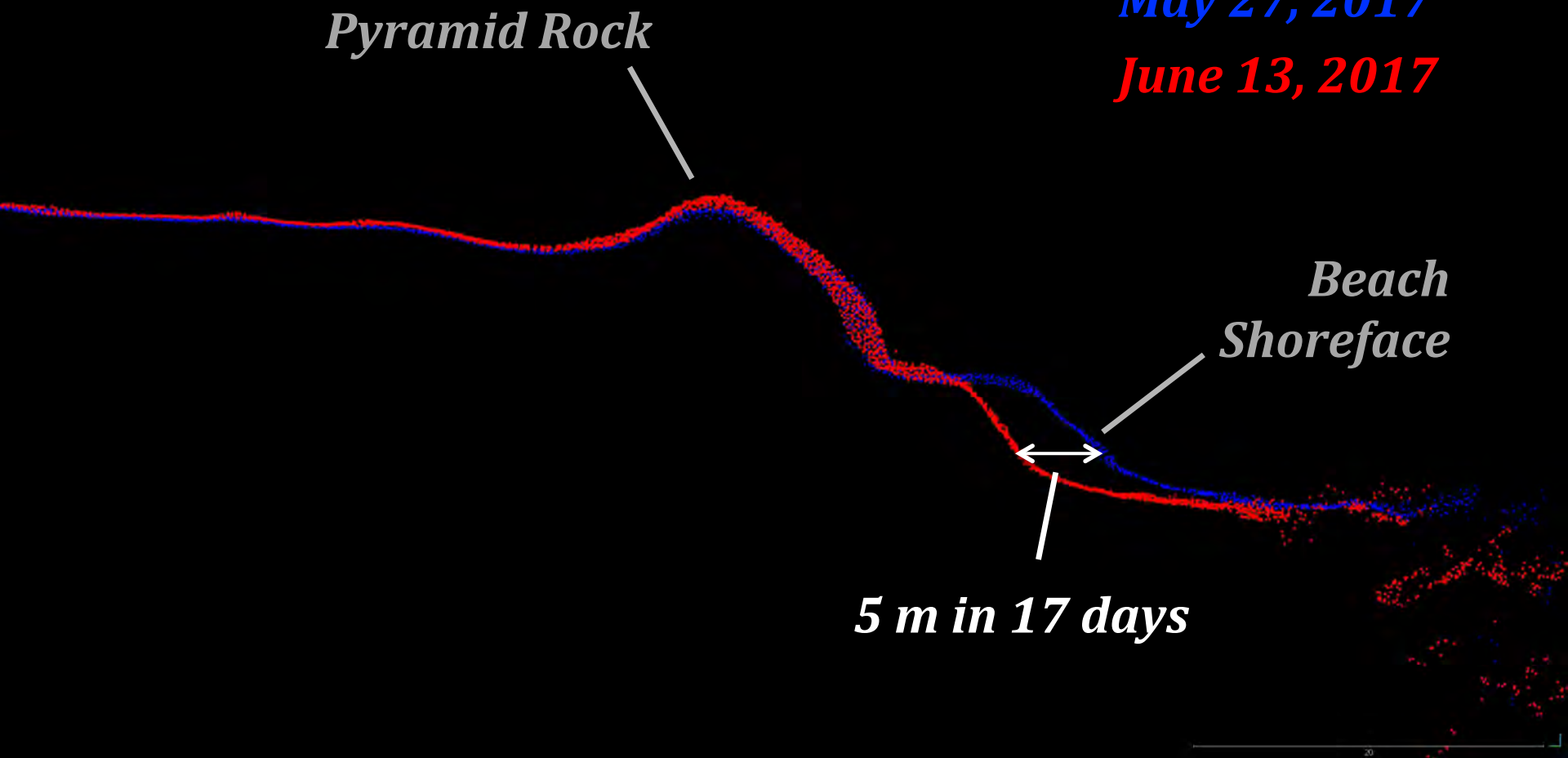
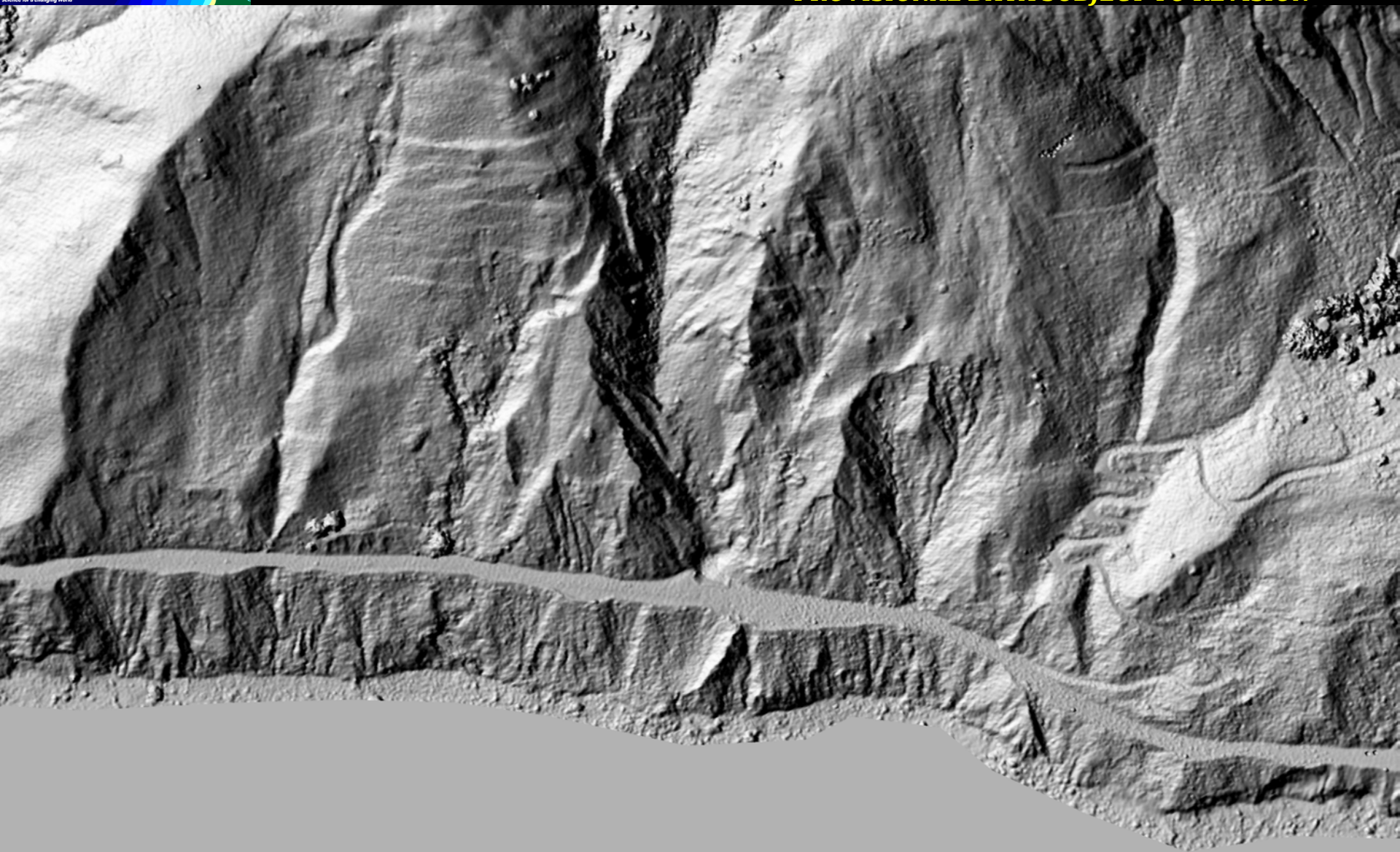
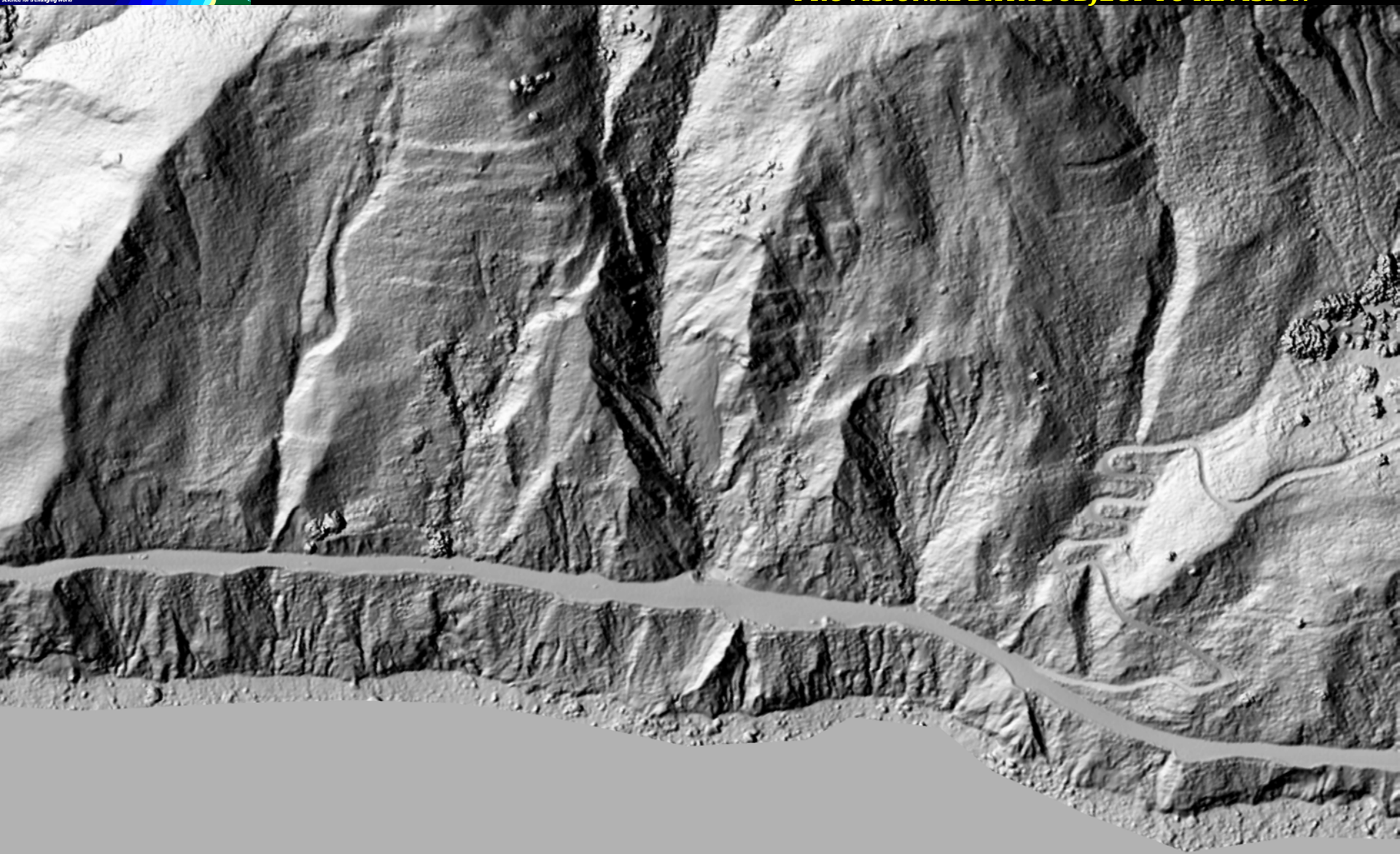


Photo Source:
U.S. Geological Survey

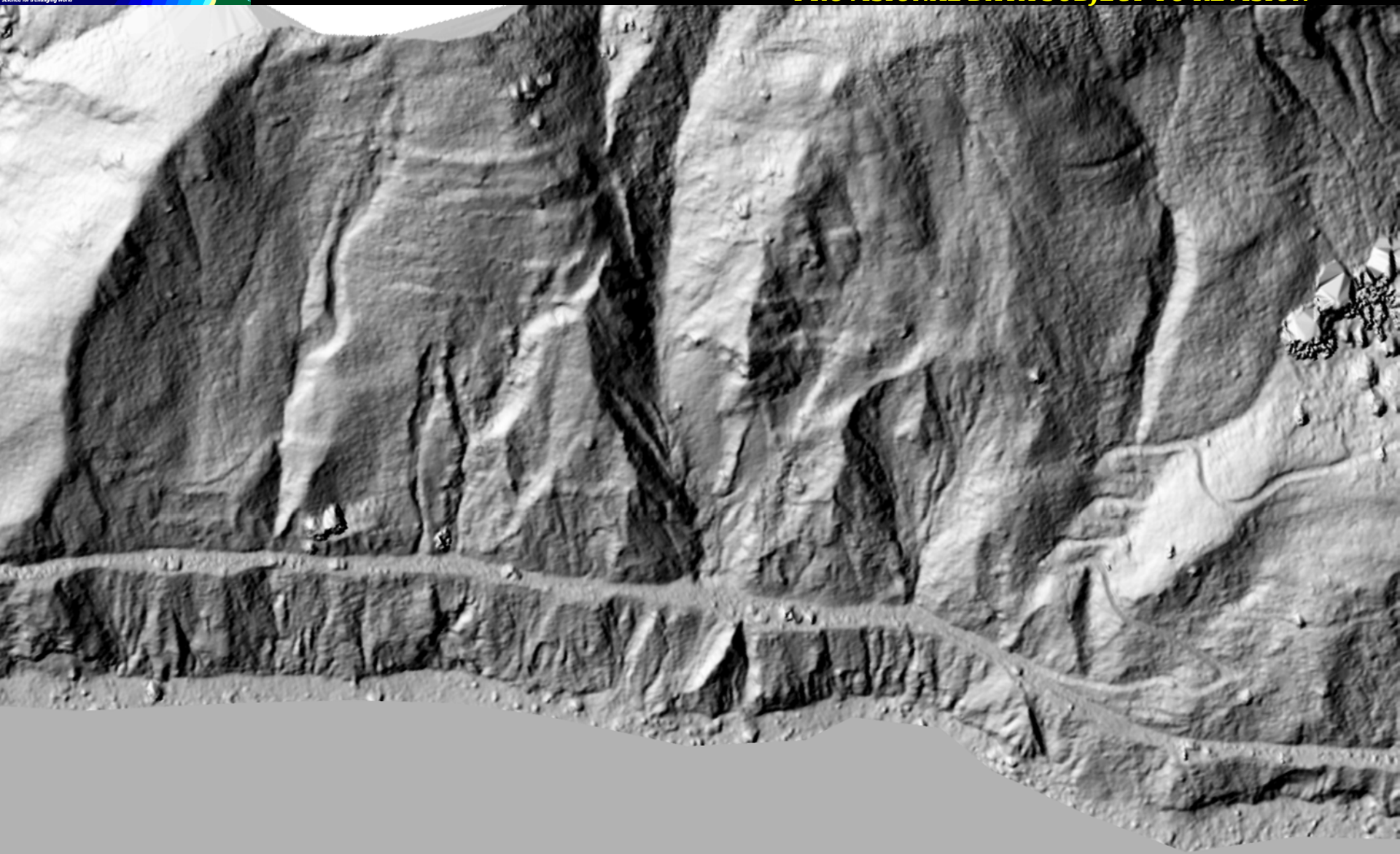
PROVISIONAL DATA SUBJECT TO REVISION



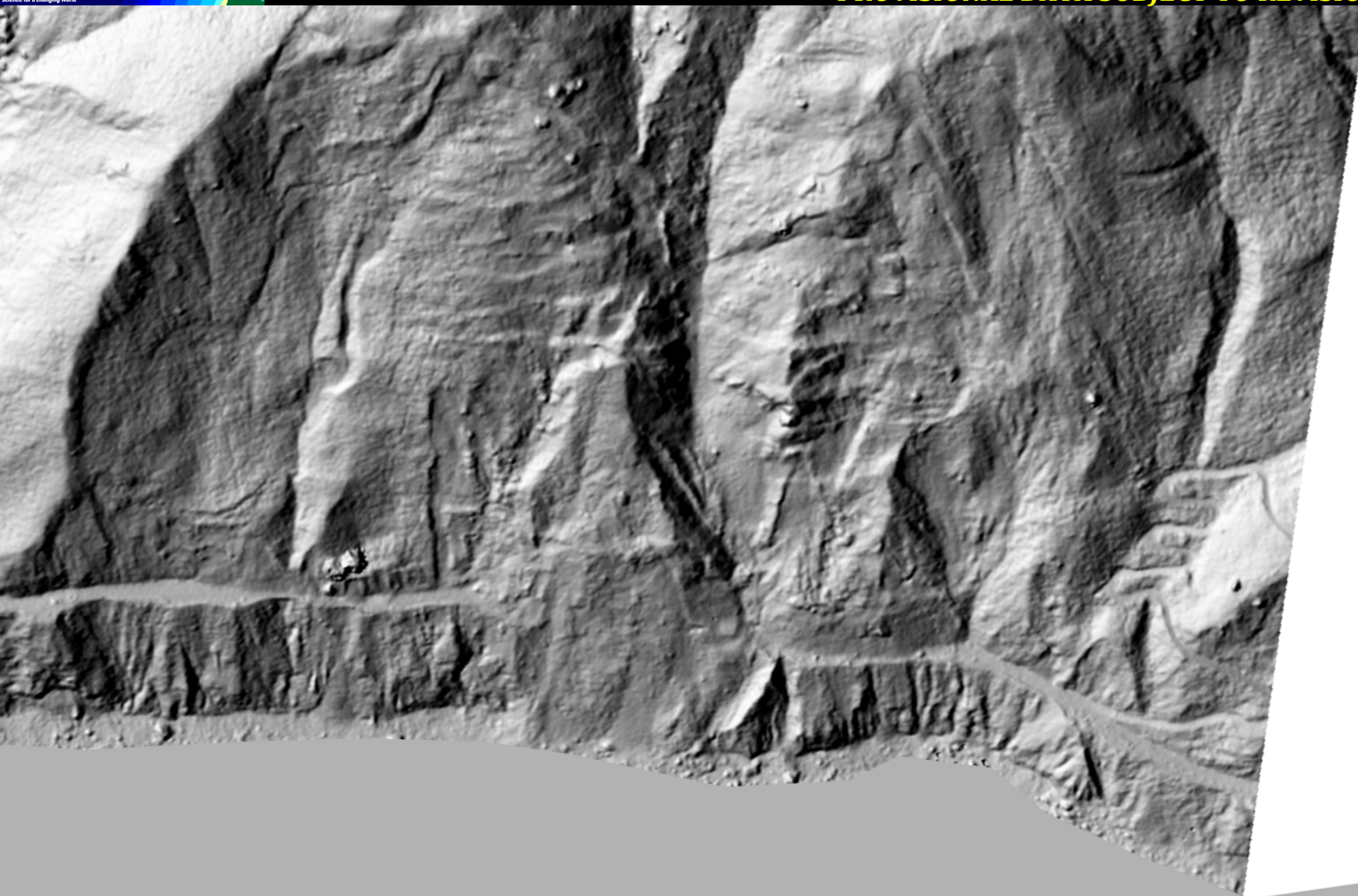
Mud Creek – Shaded Relief Topography – 2010 Lidar



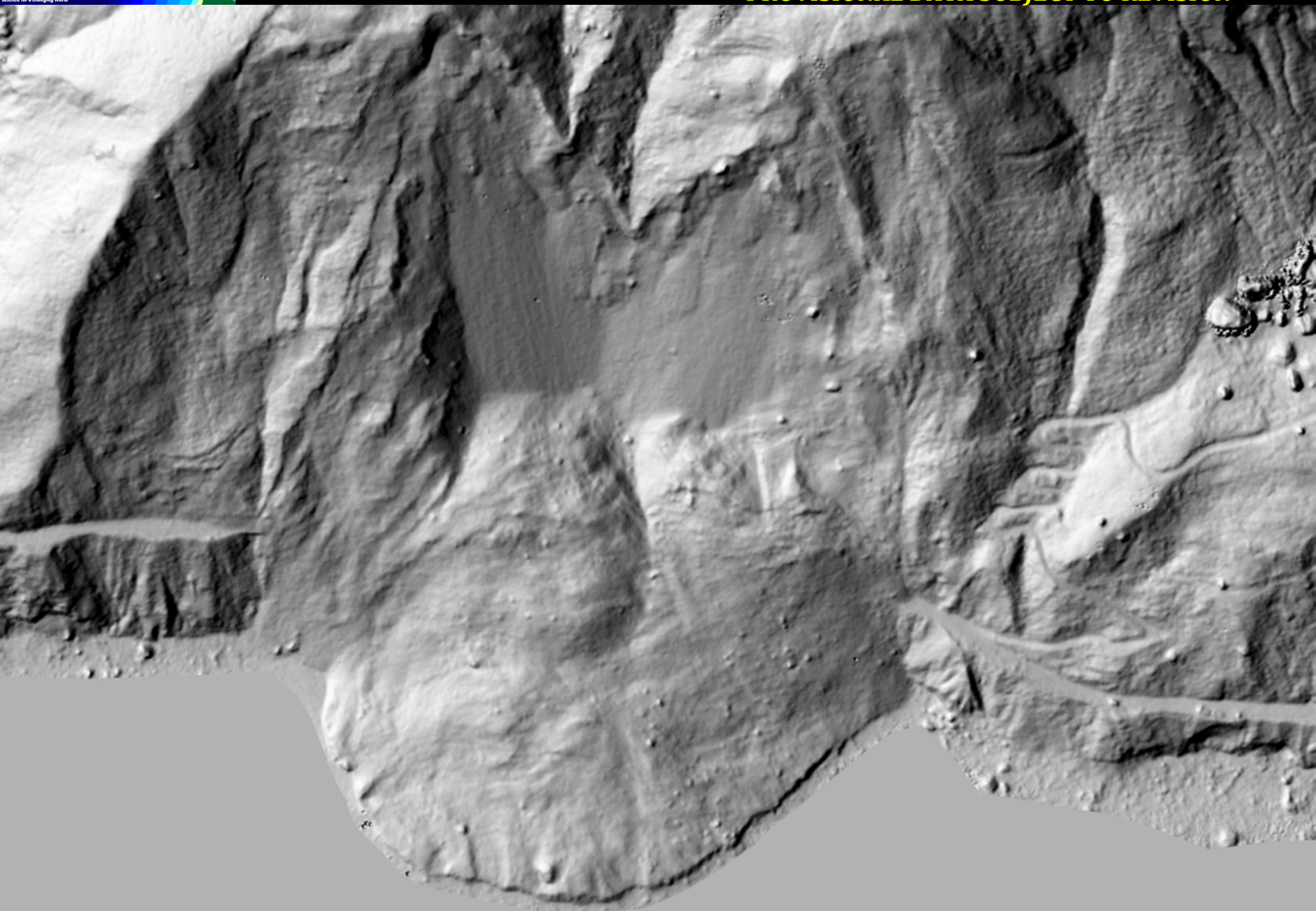
Mud Creek – Shaded Relief Topography – 2016 Lidar



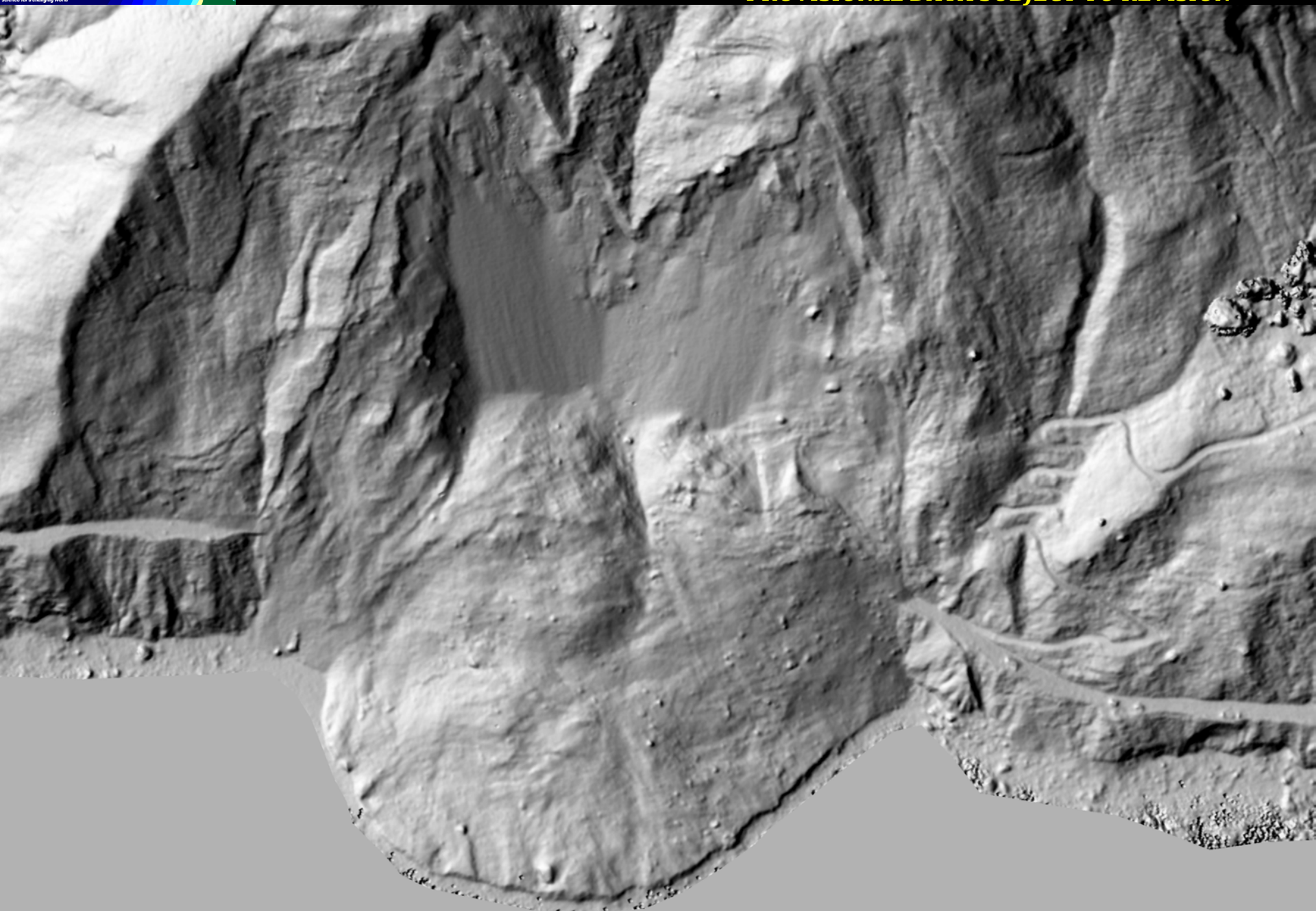
Mud Creek – Shaded Relief Topography – March 8, 2017 SfM



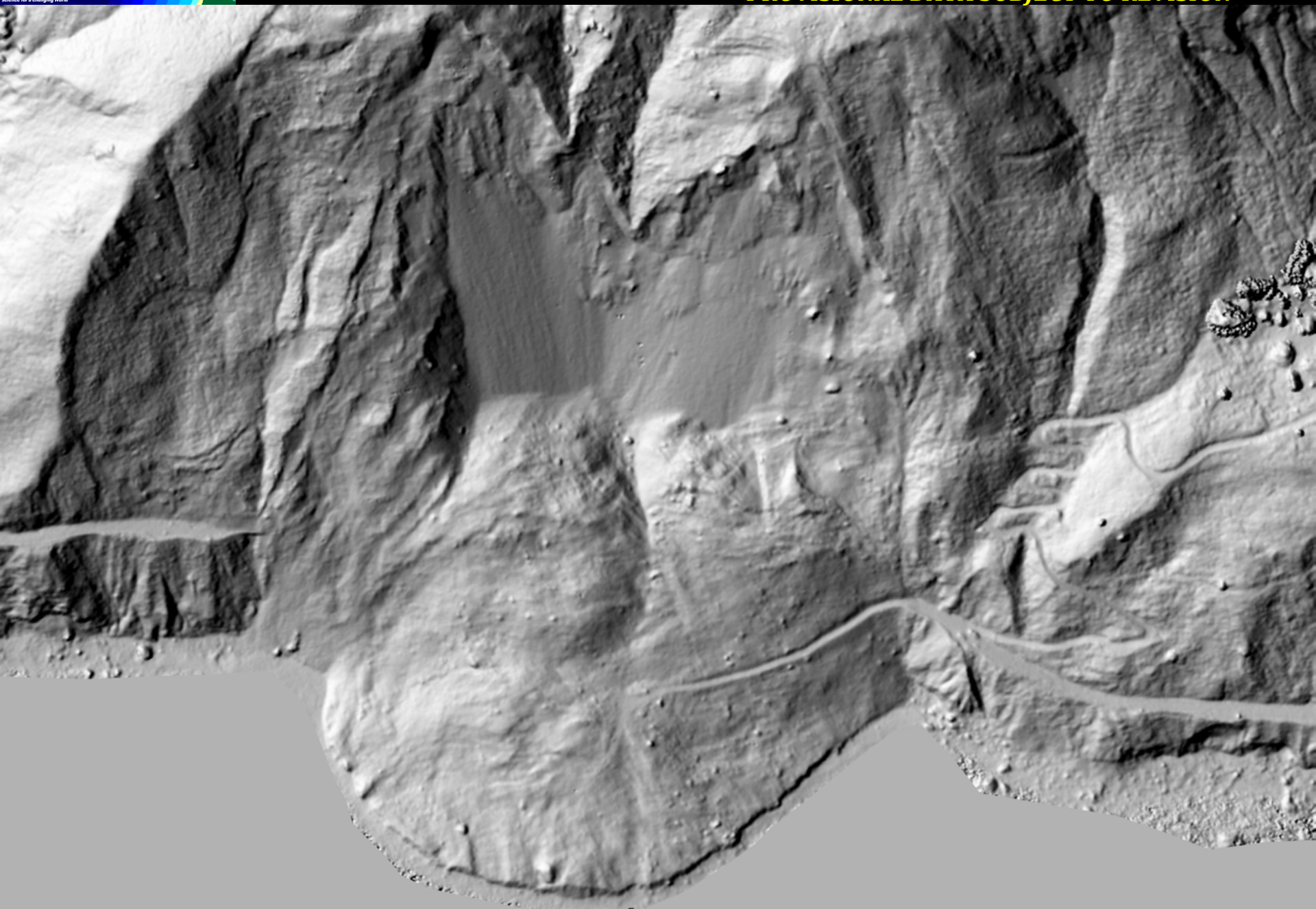
Mud Creek – Shaded Relief Topography – May 19, 2017 SfM



Mud Creek – Shaded Relief Topography – May 27, 2017 SfM



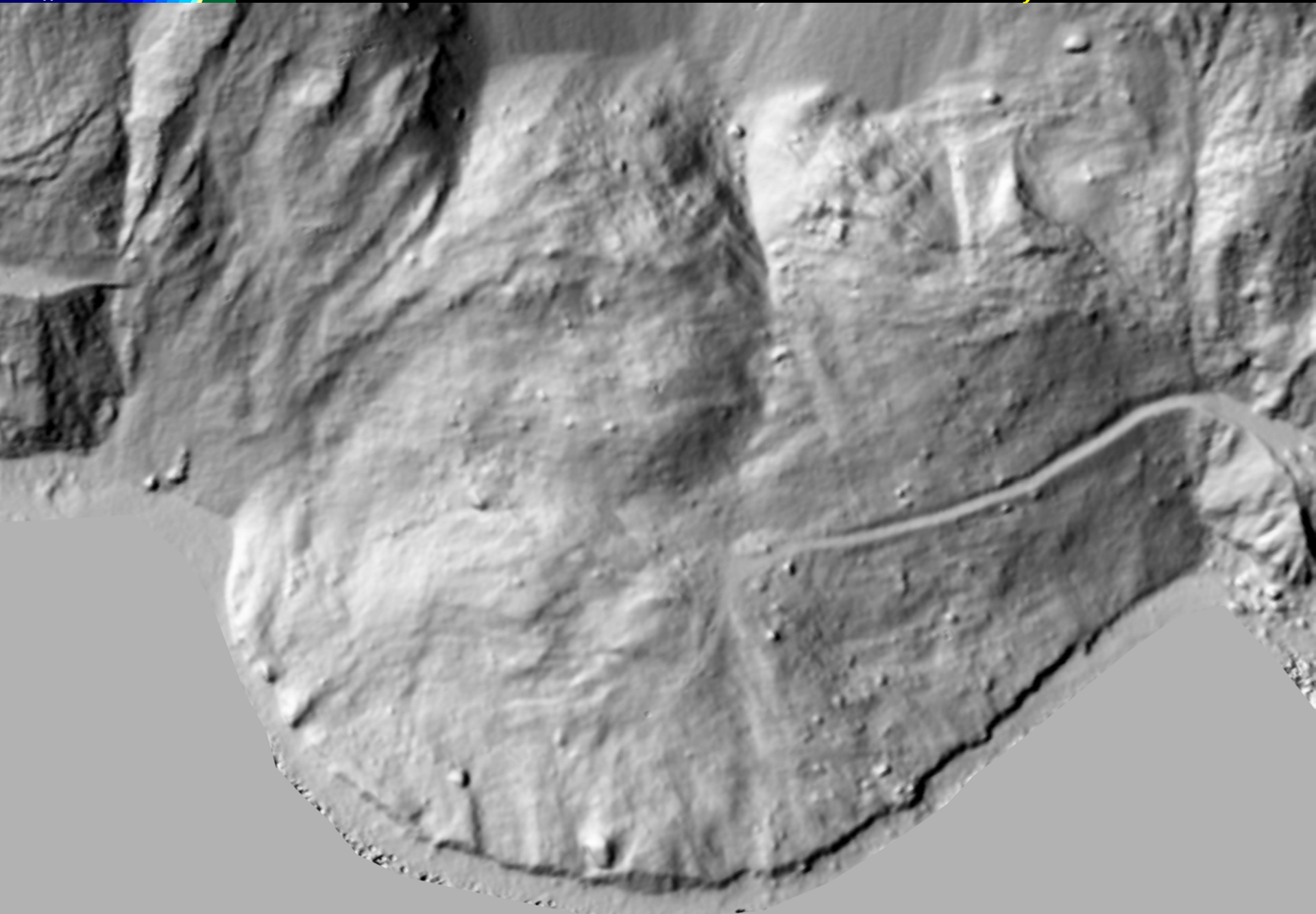
Mud Creek – Shaded Relief Topography – May 31, 2017 SfM



Mud Creek – Shaded Relief Topography – June 13, 2017 SfM



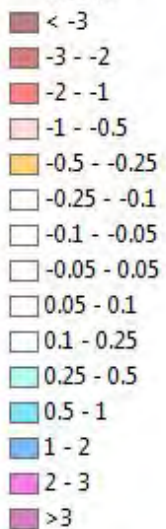
Mud Creek – Shaded Relief Topography – May 27, 2017 SfM



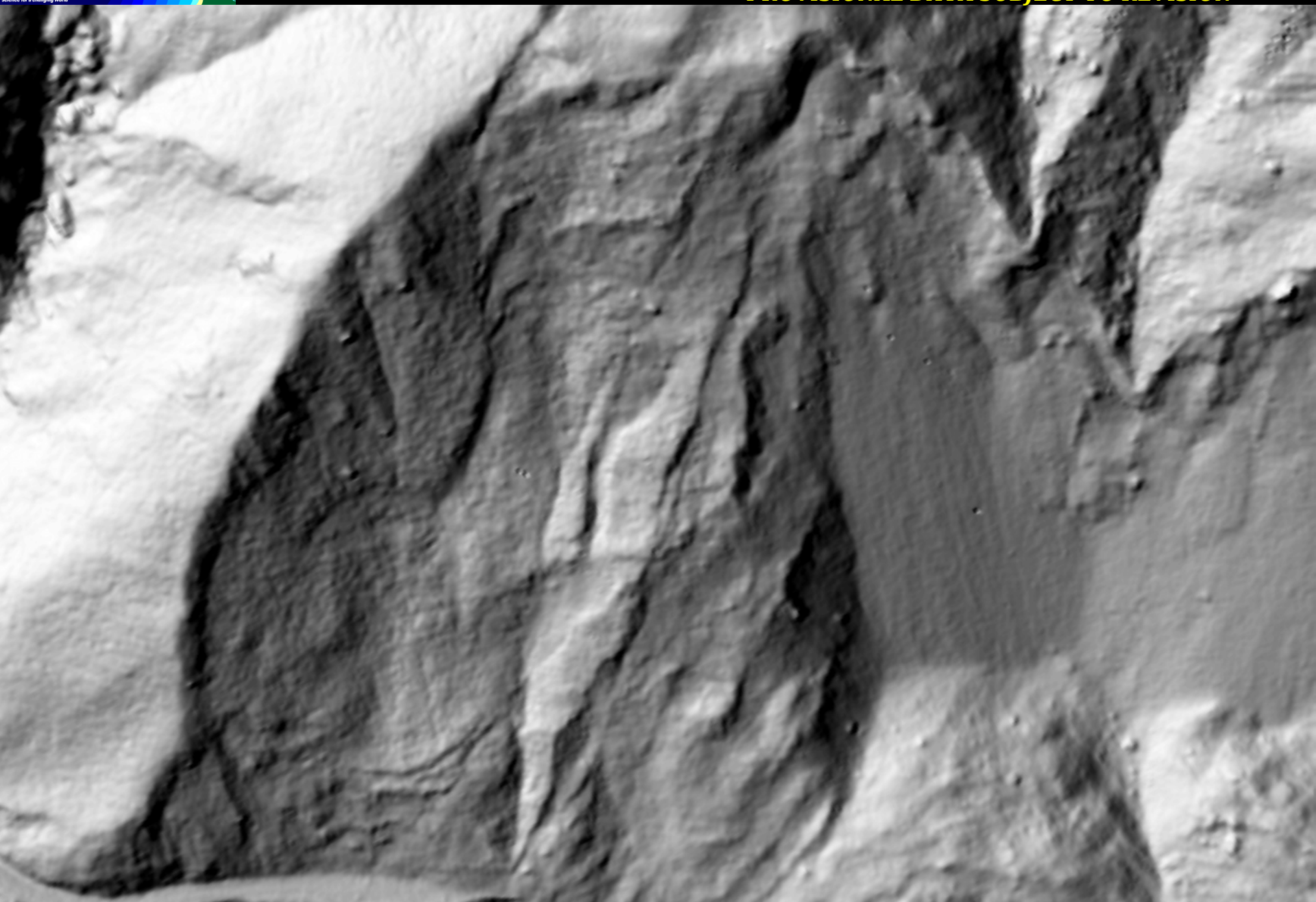
Mud Creek – Shaded Relief Topography – June 13, 2017 SfM

20170613minus20170527

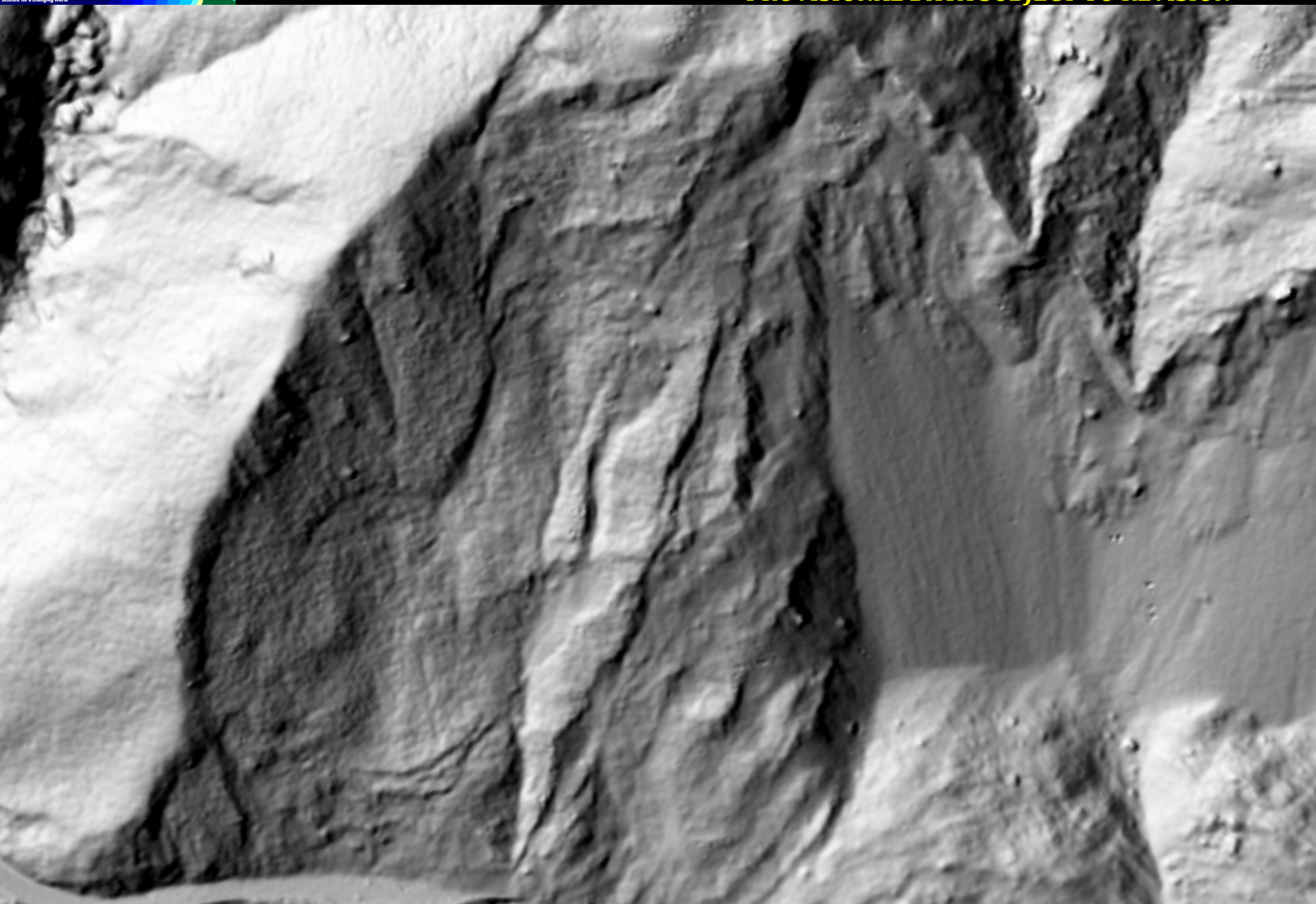
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Mud Creek – Vertical Change – May 27 to June 13, 2017



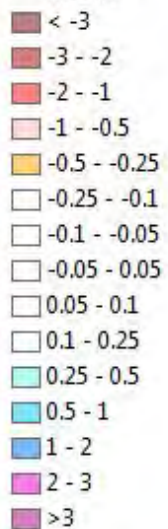
Mud Creek – Shaded Relief Topography – May 27, 2017 SfM



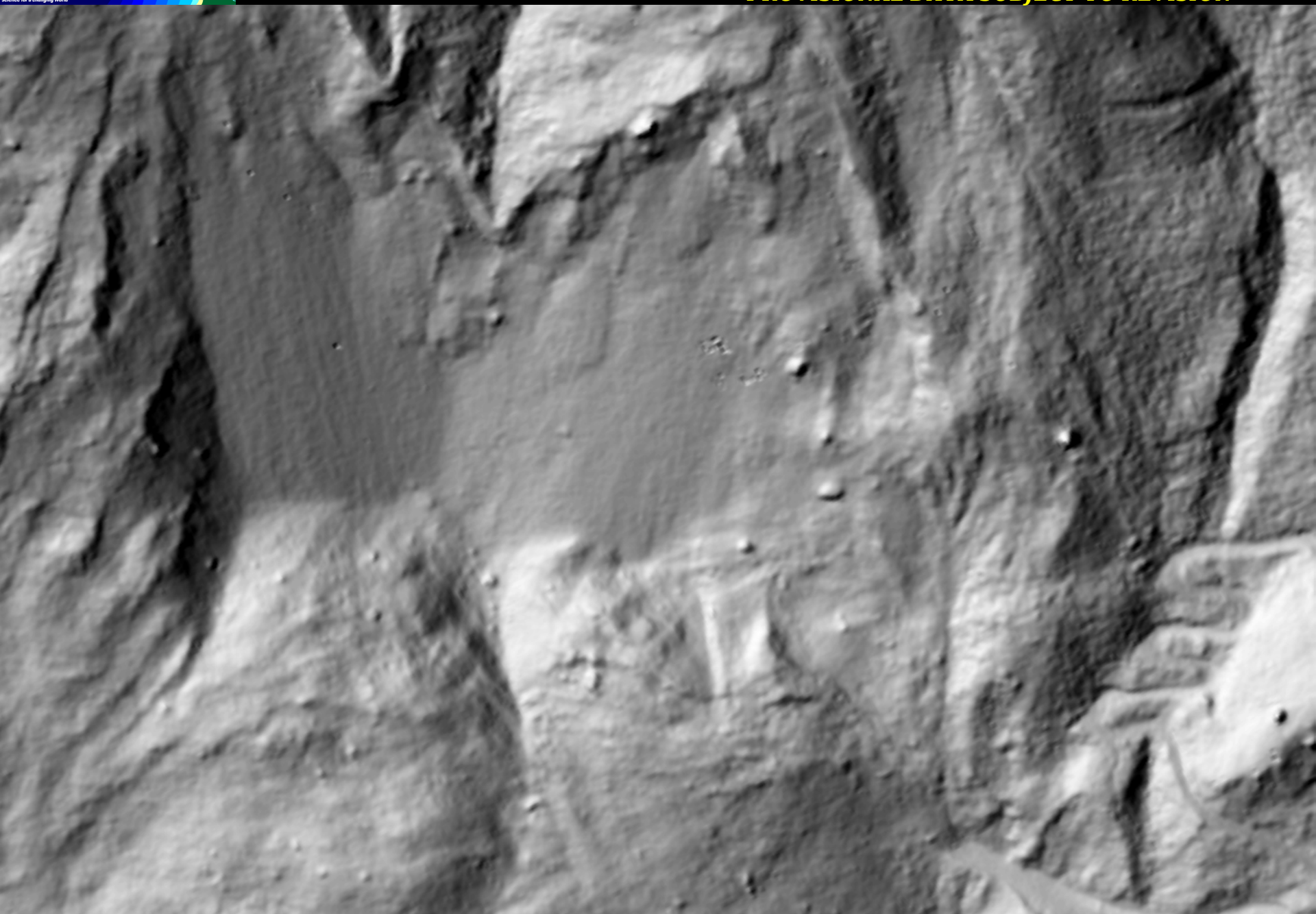
Mud Creek – Shaded Relief Topography – June 13, 2017 SfM

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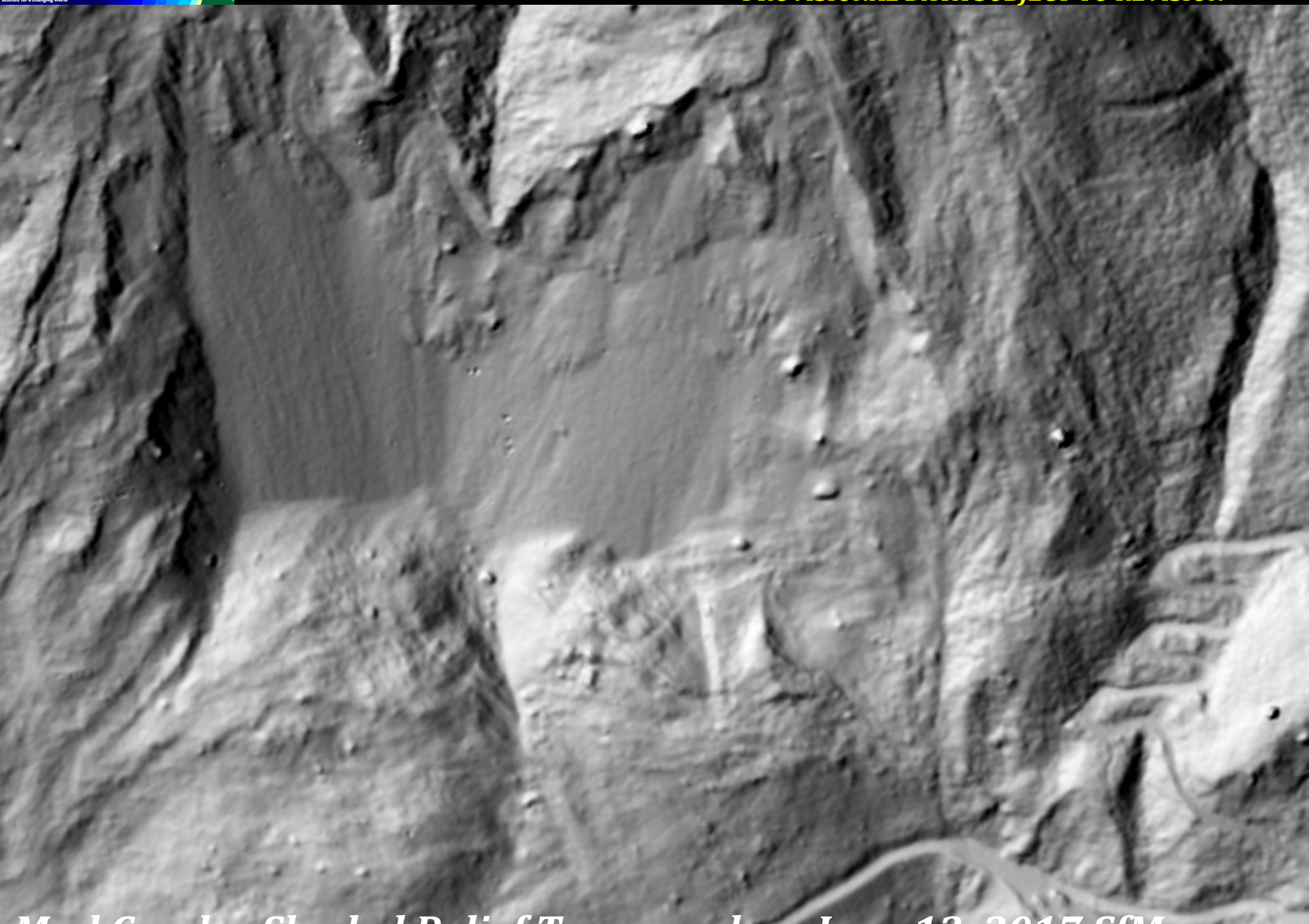
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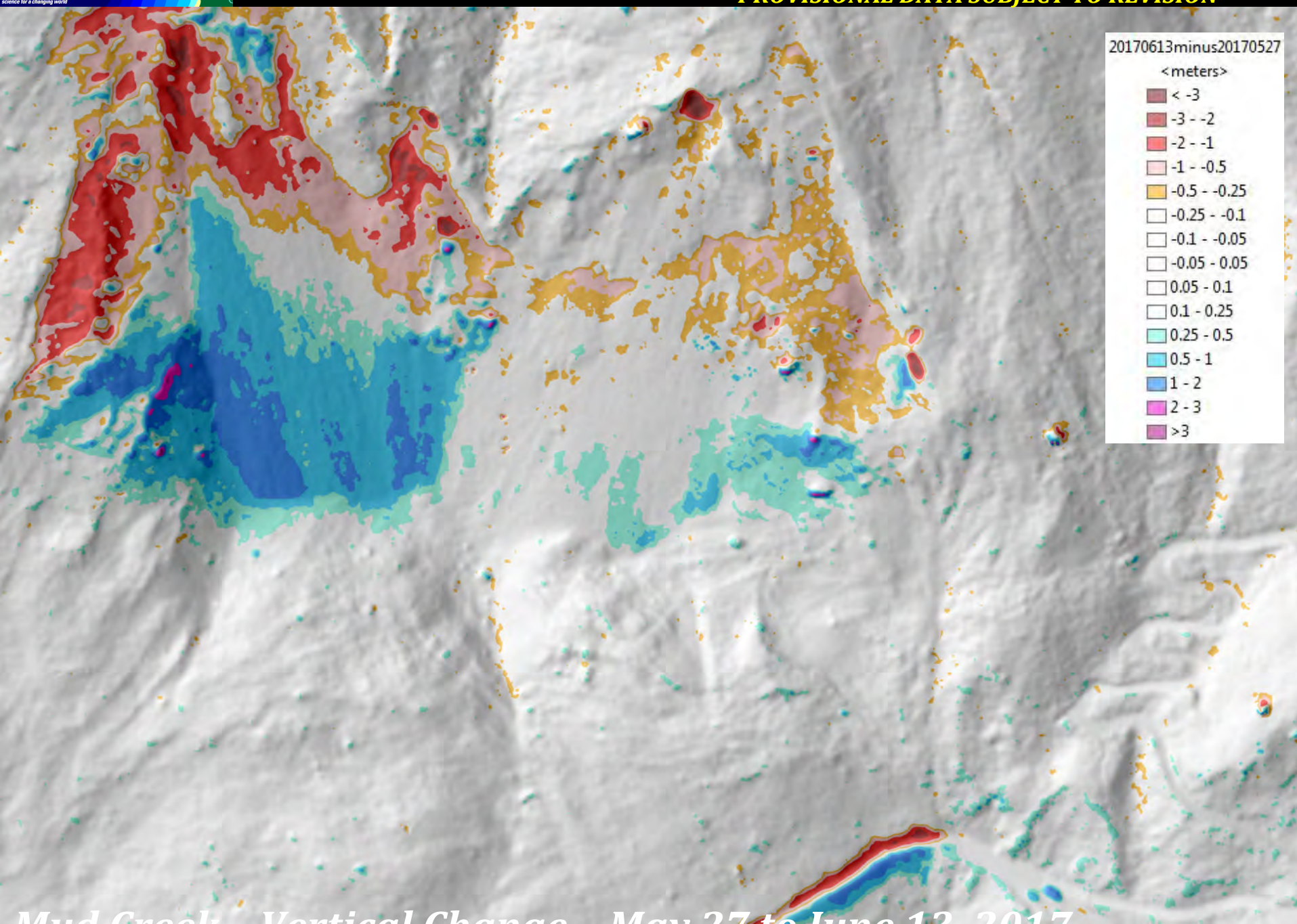
Mud Creek – Vertical Change – May 27 to June 13, 2017



Mud Creek – Shaded Relief Topography – May 27, 2017 SfM



Mud Creek – Shaded Relief Topography – June 13, 2017 SfM



For More Information:

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